

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
The Uniendo a Puerto Rico Fund and the)	WC Docket No. 18-143
Connect USVI Fund)	
)	
Connect America Fund)	WC Docket No. 10-90
)	
ETC Annual Reports and Certifications)	WC Docket No. 14-58

COMMENTS OF LIBERTY CABLEVISION OF PUERTO RICO, LLC

Alexandra Verdiales Costa
Counsel
Liberty Cablevision of Puerto Rico LLC
279 Ponce de Leon Avenue
San Juan, PR 00918

Danielle Frappier
Christopher A. Cook
1919 Pennsylvania Ave. NW Suite 800
Washington DC, 20006-3402

Counsel to Liberty Cablevision of Puerto Rico LLC

July 26, 2018

SUMMARY

Liberty Cablevision of Puerto Rico, LLC (“Liberty”) submits these comments in response to the Commission’s Notice of Proposed Rulemaking and Request for Comment on the Commission’s proposals to implement the Uniendo a Puerto Rico Fund and the Connect USVI Fund. Liberty appreciates the Commission’s recognition that “[r]estoring communications networks is a critical element of recovery,” and its actions to address the devastation and destruction in Puerto Rico and the United States Virgin Islands (“USVI”) caused by the 2017 hurricanes.

Liberty, the largest cable operator in Puerto Rico, suffered catastrophic damage to its network from the hurricanes. Hurricane Maria knocked out Liberty’s service throughout the Island, weakening or destroying approximately 80% of the poles utilized in its system. However, immediately after the hurricane, Liberty began aggressive restoration and humanitarian efforts, and has now restored service to the vast majority of its subscribers. Liberty stands ready to partner with the Commission, not only to complete restoration efforts and strengthen its networks, but also to deploy robust broadband facilities throughout Puerto Rico.

The Commission Should Allocate Support on the Basis of Need and Efficiency

Given that universal service funding is a finite resource, the Commission should allocate funds between Puerto Rico and the USVI based on relative need and efficacy. Puerto Rico’s larger and more widely-dispersed population, and geographically diverse terrain make it much more difficult and costly to provide service there compared to the USVI. Consequently, the Commission should allocate more of the Stage 2 funding to Puerto Rico.

The allocation of funds between fixed and mobile services should also be based on relative need and efficacy. The Commission’s proposed allocation of funding appropriately

reflects the differences in plant and equipment used to provide fixed services and mobile services and the costs thereof. Further, as the Commission recognizes, reliable and faster backhaul is a core component in mobile service functionality. Therefore, the Commission should maintain its proposed allocation of support between fixed and mobile services.

Finally, the Commission should allocate Stage 2 funding exclusively for the deployment of new broadband facilities, and the “hardening” of networks which requires a substantial amount of additional investment. Stage 1 funding is devoted to the restoration of networks. Stage 2 funding, therefore, should be devoted to the deployment of new facilities and creating network resiliency. Liberty proposes that 70% of Stage 2 funding be allocated to the deployment of new facilities, and 30% for the hardening of networks. By focusing support on the deployment of new facilities and hardening of networks, more Puerto Rican citizens will gain access to critical broadband services, and the networks used to provide those services will be more resilient when the next storm strikes.

To ensure that support is awarded on a cost-effective and efficient basis, the Commission should award support for the deployment of new broadband facilities through the competitive proposal process outlined in the NPRM. In implementing the competitive proposal process, the Commission should adopt four main metrics for evaluating bids: (1) price-per location served, (2) speed of network deployment, (3) network performance, and (4) network resiliency. By considering these criteria, the Commission can foster the deployment of broadband service throughout Puerto Rico.

The Commission should award support for the hardening of networks through a negotiated process with individual providers given the unique needs that each existing network plant presents. Support for “hardening” should be used to bury the provider’s core network and

reduce dependency on the power grid. Through a negotiation process, the Commission should be able to evaluate more carefully the unique aspects and metrics of each provider's network and allocate support accordingly.

Awarding Support at the Census Block Group Level Will Promote the Efficient use of Finite Universal Service Funds

The Commission should award support at the census block group level, which permits an appropriately granular calibration of support. By awarding support at this level, the Commission will also effectively mirror how it has awarded support through the CAF II program.

The Commission should impose limitations on the geographic territories within Puerto Rico that are eligible for support and exclude, from eligibility for support allocated for deployment of new facilities, areas that are currently served by unsubsidized terrestrial providers of fixed voice and broadband. Further, some municipios should be eligible to receive only Stage 2 support for hardening. It would be inefficient to allocate support for facilities deployment to municipios that are densely populated with significant infrastructure already in place. Liberty has included a list of municipios describing the type of Stage 2 support for which each would be eligible.

In order to establish the reserve prices for each eligible geographic area, the Commission proposes to utilize high-cost and extremely high-cost funding thresholds, much like it did under the CAF II program. However, the Commission should substantially decrease the benchmark below the 25% proposed level, in order to take into account conditions that exist in Puerto Rico that are not present in the contiguous 48 states. The Commission already has acknowledged that the providers in Puerto Rico "...face unique circumstances in the areas they serve and experience different challenges in deploying broadband service" throughout Puerto Rico. Likewise, the high-cost funding threshold for Puerto Rico should be reduced substantially.

The providers eligible to receive Stage 2 funding should be limited to operators of wireline networks that provided broadband service in Puerto Rico based on June 2017 FCC Form 477 data. Because of the unique operating environment in Puerto Rico, any new entrants to the market are likely to face significant challenges uncommon in the contiguous 48 states, and as a result, would be less efficient in their use of the finite universal service high-cost funding.

The Commission's Proposals for Accountability and Oversight Are Necessary and Appropriate

Liberty supports the Commission's proposals to monitor the accountability of those providers that are awarded support through the Uniendo a Puerto Rico Fund. In contrast to the absence of concrete service and deployment obligations associated with the disbursement of universal service funds in Puerto Rico for many years, the Commission should enforce the proposed accountability measures in order to ensure that the U.S. citizens of Puerto Rico are not left behind in the modern information age.

Liberty respectfully submits that the proposals specified herein will result in fair and efficient disbursement of support tied to aggressive service and deployment obligations. The Uniendo a Puerto Rico Fund provides an opportunity for the Commission to ensure that Puerto Rico is equipped with the infrastructure necessary to thrive in the modern world.

TABLE OF CONTENTS

I.	INTRODUCTION	2
A.	Background	2
1.	Liberty’s Plant and Operations in Puerto Rico	2
2.	Liberty’s Response to Hurricanes Irma and Maria	2
3.	History of High-Cost Universal Service Support in Puerto Rico	4
II.	THE COMMISSION SHOULD ALLOCATE SUPPORT ON THE BASIS OF NEED AND EFFICIENCY	6
A.	Additional Support is Necessary to Fund Continued Restoration Efforts and Optimize Broadband Deployment in Puerto Rico	7
B.	The Allocation of Stage 2 Funding Should be Adjusted to Optimize its Use in the Areas Most Devastated by the 2017 Hurricanes	8
C.	The Commission’s Allocation of Stage 2 Support Between Fixed and Mobile Operators is Appropriate	11
D.	The Commission Should Only Award Stage 2 Support for the Deployment of Facilities to Unserved/Underserved Areas and for Hardening Networks	11
1.	The Majority of Stage 2 Funding Should be Targeted Towards the Deployment of New Broadband Infrastructure	13
2.	The Commission Must Allocate Funding Specifically for the Hardening of Networks	20
III.	THE COMMISSION SHOULD AWARD SUPPORT TO EXISTING PROVIDERS IN A MANNER THAT PROMOTES THE EFFICIENT USE OF FINITE UNIVERSAL SERVICE FUNDS	24
A.	Stage 2 Support Should be Awarded on a Census Block Group Level to Those Specific Areas of Puerto Rico Where Funding is Most Critical	24
1.	The Minimum Geographic Area for Awarding Support Should be on the Census Block Group Level	24
2.	Only Certain Territories in Puerto Rico Should be Eligible for Funding	26
B.	The Commission Must Adjust the Funding Benchmark to Account for the Unique Circumstances in Puerto Rico	27
C.	Stage 2 Support Should be Limited to Existing Facilities-Based Providers in Puerto Rico	30
IV.	LIBERTY SUPPORTS THE COMMISSION’S PROPOSALS ON ACCOUNTABILITY AND OVERSIGHT	31
	CONCLUSION	32

INDEX OF RESPOSNES TO NPRM

Liberty includes the following index to assist the Commission in reviewing Liberty's responses to the Notice of Proposed Rule Making

<u>NPRM Paragraph</u>	<u>Page(s) with Responsive Comments</u>
¶31	7, 8
¶34	7, 8, 9, 10
¶35	23, 24
¶36	13, 16
¶37	8, 9, 10
¶40	13, 14, 15, 16, 17, 18, 19
¶41	13, 15, 23, 24
¶42	26, 27, 30, 31
¶47	24, 25, 26, 27
¶48	24, 25, 26, 27
¶49	24, 25, 30, 31
¶52	27, 28, 29, 30, 31
¶53	27, 28, 29, 30, 31
¶54	13, 14, 15, 16, 17, 18, 19
¶55	17, 18, 19
¶56	25
¶64	31, 32
¶65	31, 32
¶66	31, 32

¶67	31, 32
¶68	31, 32
¶69	31, 32
¶70	31, 32
¶75	21, 22, 23
¶76	21, 22, 23
¶77	21, 22, 23
¶97	8, 11, 20, 22

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
The Uniendo a Puerto Rico Fund and the)	WC Docket No. 18-143
Connect USVI Fund)	
)	
Connect America Fund)	WC Docket No. 10-90
)	
ETC Annual Reports and Certifications)	WC Docket No. 14-58

COMMENTS OF LIBERTY CABLEVISION OF PUERTO RICO, LLC

Liberty Cablevision of Puerto Rico, LLC (“Liberty”) submits these comments in response to the Commission’s Notice of Proposed Rulemaking and Request for Comment on the Commission’s proposals to implement the Uniendo a Puerto Rico Fund and the Connect USVI Fund.¹ Liberty appreciates the Commission’s recognition that “[r]estoring communications networks is a critical element of recovery,”² and its actions to address the devastation and destruction in Puerto Rico and the United States Virgin Islands (“USVI”) caused by the 2017 hurricanes. The Commission’s proposals will not only restore and strengthen infrastructure that existed prior to the hurricanes, but also help to modernize and expand the communications networks in Puerto Rico and the USVI.

¹ *In Re The Uniendo a Puerto Rico Fund and the Connect USVI Fund, Connect America Fund, ETC Annual Reports and Certifications*, Order and Notice of Proposed Rulemaking, FCC 18-57, WC Docket Nos. 18-143 *et al.*, (FCC rel. May 29, 2018) (“*Order*” or “*NPRM*”).

² *Id.* at para. 2.

I. INTRODUCTION

A. Background

1. Liberty's Plant and Operations in Puerto Rico

Liberty is the largest cable operator in Puerto Rico, passing over one million homes or approximately 70% of the homes on the Island. Liberty provides video, broadband internet and voice over Internet Protocol ("VoIP") telephony services to residential and business customers. Liberty's plant is two-way capable, and roughly 89% of the homes served by Liberty have been upgraded to at least 750 MHz. As of June 30, 2017, Liberty was providing broadband service to approximately 340,000 customers and VoIP service to 211,000 customers, of which approximately 10,000 did not receive broadband service.

In 2015 through 2017, Liberty aggressively built out its plant, primarily to low density areas, to serve over 44,000 additional homes, more than doubling the number of build-outs from 2015 to 2017. Liberty was on pace to achieve a comparable number of new builds in 2017 until the hurricanes hit in September.

Liberty's network includes multiple fiber rings consisting of more than 800 miles of fiber, which provides enhanced interconnectivity points in the main island of Puerto Rico to other local and international telecommunications companies. Liberty is also a socially responsible corporate citizen. It gives back to the community and supports many causes, mainly in the education, cultural, social, and health sectors.

2. Liberty's Response to Hurricanes Irma and Maria

In September 2017, Hurricanes Irma and Maria, Category 5 and 4 hurricanes, battered Puerto Rico, substantially damaging or destroying its power and telecommunications infrastructures. After Hurricane Irma, over one million Puerto Rican residents were left without

power, and Liberty suffered damage to its plant and subscriber equipment. The damage to Puerto Rico resulting from Hurricane Maria was catastrophic.

Liberty largely had repaired the substantial damage to its plant and subscriber premises drops and equipment from Hurricane Irma when Hurricane Maria struck Puerto Rico. Hurricane Maria knocked out Liberty's service throughout the Island, and Liberty estimates that Hurricane Maria destroyed 80% of the poles utilized. However, immediately after the hurricane, Liberty began aggressive restoration and humanitarian efforts.³ It relied on more than 250 construction crews, the majority from the US mainland, and over 200 technicians to restore service as quickly as possible to as many subscribers as possible. By the end of June 2018, Liberty had replaced 7,000 poles, 3,728 miles of coaxial cable, 1,300 miles of fiber, and tens of millions of dollars of other network equipment. It had repaired substantial damage to its headends, optical transport networks ("OTN"), its nodes, customer premises equipment ("CPE") and other network equipment, and visited more than 160,000 customers. As a result of its efforts, Liberty restored service to more than 75% of its customers by the end of March 2018 and to the vast majority of its network by June 2018. Liberty's restoration efforts have been costly. It has spent over \$130 million rebuilding its plant and restoring service to subscribers, of which only a portion may be

³ Aside from providing much needed help to its employees through the Liberty Foundation, Liberty partnered with Kymeta, a Washington based tech company, to offer a disaster relief caravan comprised of two vehicles equipped with Kymeta's flat panel, beam-forming, electronically steered satellite terminals from October through December 2017 for a "Wi-Fi Tour." Despite the lack of any electrical power or cellular service, the low power-consuming terminals provided Internet access using the vehicles to power the communications system. This provided communication capabilities for disaster relief efforts and brought high-speed connectivity to communities that were without power or communications for weeks. In all, the Liberty Puerto Rico Wi-Fi Tour delivered 22,266 internet sessions and 813.44GB of data usage. This internet access assisted relief efforts in 33 communities, supporting public safety staff and helping residents access much-needed funds from pop-up ATMs, access to have prescriptions filled, and access to file 2,504 FEMA applications. For many of the residents, it was also the first time they had the opportunity to communicate with friends and family since the hurricanes.

recoverable through insurance. Furthermore, Liberty has offered over \$135 million in customer credits.

Liberty's restoration efforts have been complicated by the unstable electrical power grid in Puerto Rico and frequent power outages. Liberty largely powered all its headends, OTNs and central offices with generators for over eight weeks and still uses generators to power some of them. The company estimates that roughly 5% of Liberty's prior customers still did not have power, and as a result, Liberty service, as of June 2018.

Notwithstanding Liberty's prompt, extensive and costly rebuilding efforts, there are a number of low-density communities for which Liberty cannot economically restore service. More than one million feet of coaxial cable, nodes, other network equipment, and CPE were damaged in communities in which Liberty passed roughly 30,000 homes before the hurricanes. Further buildouts to thousands of additional homes in less-populated areas in Puerto Rico will require supplemental government funding.

3. History of High-Cost Universal Service Support in Puerto Rico

The Commission has long recognized that the "non-contiguous" areas of the United States (*i.e.*, those that are not part of the contiguous forty-eight states) face unique deployment, maintenance and service challenges when considering the appropriate level and method of disbursing federal universal service funds. For that reason, it determined that, as a policy matter, it was best to consider the appropriate funding levels and mechanisms outside the construct of the Connect America Fund ("CAF") program that the Commission utilizes to award high-cost funding to the forty-eight contiguous states. In the 2011 *USF/ICC Transformation Order*, the Commission first recognized that "...carriers serving Alaska, Hawaii, Puerto Rico, the U.S. Virgin Islands and Northern Marianas Islands...face operating conditions and challenges that

differ from those faced by carriers in the contiguous 48 states.”⁴ In the 2014 *CAM Inputs Order*, the Commission stated that carriers serving non-contiguous areas would have “the option of choosing either to continue to receive frozen support amounts for the term of [CAF] Phase II, or to elect or decline the model-determined support amount.”⁵ Lastly, in the *December 2014 Connect America Fund Order*, the Commission allowed carriers in non-contiguous areas to elect to continue receiving frozen high-cost support amounts in exchange for accepting tailored service obligations “to be adopted at a later date.”⁶

Ultimately, the incumbent local exchange carriers (“ILECs”) in Puerto Rico and the USVI made the election to continue receiving frozen high-cost support in lieu of CAF Phase II support.⁷ The decision to elect frozen support was not a difficult one for the ILECs in Puerto Rico and the USVI because, prior to the Commission’s release of the final CAF cost model, the Commission calculated that the carriers would otherwise lose up to “88% or more of anticipated support” based on its determination of the costs associated with deploying broadband facilities to Puerto Rico and the USVI.⁸ Therefore, by electing to receive frozen high-cost support, the

⁴ See *Connect America Fund et al.*; WC Docket Nos. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17737, para. 193 (2011) (“*USF/ICC Transformation Order*”) *aff’d sub nom.*, *In re: FCC 11-161*, 753 F.3d 1015 (10th Cir. 2014).

⁵ *Connect America Fund et al.*, WC Docket No. 10-90 et al., Report and Order, 29 FCC Rcd 3964, 4029, para. 152 (Wireline Comp. Bur. 2014) (“*CAM Inputs Order*”).

⁶ *Connect America Fund*, Report and Order, 29 FCC Rcd 15644, 15661-63, paras. 45-49 (2014) (*December 2014 Connect America Fund Order*) (emphasis added).

⁷ See Letter from Thomas J. Navin, Counsel, Puerto Rico Telephone Company, Inc., to Ms. Julie Veach, Chief, Wireline Competition Bureau, Docket No. 10-90 (filed Dec. 22, 2014); Letter from Russell M. Blau, Counsel, Virgin Island Telephone Corporation, to Ms. Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90 (filed Dec. 29, 2014).

⁸ See Comments of Virgin Islands Telephone Corporations d/b/a Innovative Telephone, WC Docket No. 10-90 at 2 (filed on Sept. 12, 2013); Comments of Puerto Rico Telephone Company, Inc., WC Docket No. 10-90 at 5 (filed Jan. 7, 2014) (stating that PRTC was likely to see an 80% decrease in support under the CAF model).

ILECs in Puerto Rico and the USVI were receiving *significantly* more support than they would have received under CAF Phase II. Moreover, although the Commission required the electing ILECs to commit to tailored service and deployment obligations, the Commission stated that such obligations would be adopted at a later date.⁹ Although these obligations were slated to have been adopted “no later than the time [the Commission] adopt[ed] the rules for the Phase II competitive bidding process,”¹⁰ this did not occur. This effectively allowed the ILEC in Puerto Rico, Puerto Rico Telephone Company (“PRTC”), to receive roughly \$36 million annually *with no concrete service or deployment obligations*.¹¹

Through the Order and NPRM, the Commission proposes to enter a new era of universal service in Puerto Rico. By introducing a competitive environment in which providers compete to obtain support in exchange for meeting obligations designed to restore service, strengthen networks, and deploy broadband facilities to previously unserved areas, the Commission has a unique opportunity to refocus the disbursement of universal service funding in Puerto Rico for its most productive uses. Liberty stands ready to partner with the Commission, and is primed not only to finish restoring services and strengthen networks, but also to deploy robust broadband facilities throughout Puerto Rico.

II. THE COMMISSION SHOULD ALLOCATE SUPPORT ON THE BASIS OF NEED AND EFFICIENCY

The Commission’s decision to authorize an additional \$105 million in support to assist with the “long-term rebuilding, improvement, and hardening of fixed voice and broadband

⁹ *December 2014 Connect America Fund Order*, 29 FCC Rcd at 15661-63, paras. 45-49.

¹⁰ *Id.* at 15662, para. 48.

¹¹ Order at para. 11; *see also* Letter from Thomas J. Navin, Counsel, Puerto Rico Telephone Company, Inc., to Ms. Julie Veach, Chief, Wireline Competition Bureau, Docket No. 10-90 (filed Dec. 22, 2014).

service...”¹² is fully justified. Such support is critical for providers to maximize efforts to deploy hardened broadband communications networks throughout Puerto Rico. However, to optimize the deployment of broadband facilities in Puerto Rico, adjustments to the proposed allocation of support, is required.

A. Additional Support is Necessary to Fund Continued Restoration Efforts and Optimize Broadband Deployment in Puerto Rico

Liberty is committed not only to restoring service to areas devastated by the 2017 hurricanes, but also to hardening its network and deploying broadband to portions of Puerto Rico that did not have access to broadband before the 2017 hurricanes. To date, Liberty has self-funded through direct investment and, to a lesser degree, the use of insurance pre-payments, the restoration and deployment of its broadband network in Puerto Rico.

The funds that the Commission proposes to make available through Stage 2 of the Uniendo a Puerto Rico Fund will help finalize this restoration process as well as expand broadband service throughout Puerto Rico. As the Commission recognizes, “[r]estoring communications networks is a critical element of recovery” for Puerto Rico, and “[r]ecovery of the communications networks in Puerto Rico . . . has proven especially challenging, particularly compared to other locations in the United States.”¹³ The Commission already has recognized that additional support beyond current levels of high-cost support is necessary to rebuild, improve, and expand service throughout Puerto Rico.¹⁴ But achieving the Commission’s goals in Puerto Rico will require allocating additional support in new ways that offer opportunities for providers to propose innovative solutions to create resiliency in their networks.

¹² NPRM at para. 34.

¹³ Order at paras. 1, 3.

¹⁴ NPRM at para. 31.

Without the infusion of additional support beyond what the Commission has proposed, it is unlikely that the Commission will fully achieve each of the three goals laid out in the Order and NPRM, *i.e.*, rebuilding, improving, and expanding broadband-capable networks.¹⁵ Therefore, Liberty supports PRTC’s proposal for \$200 million in additional funding. However, Liberty does not believe that such additional funding should be utilized “to facilitate restoration of service.”¹⁶ Rather, the \$200 million in additional funding should be exclusively used for the hardening of networks, as is discussed in Section II(D)(2) *infra*, so as to avoid future devastation to the communication infrastructure like the damage caused by the 2017 hurricanes.

It is imperative that the Commission consider additional support beyond is the amount currently allocated to Stage 2. Such additional funding will provide much needed capital for the hardening of facilities, which the high-cost fund has not been traditionally equipped to address and will ensure the “long-term rebuilding, improvement, and hardening of fixed voice and broadband service.”¹⁷

B. The Allocation of Stage 2 Funding Should be Adjusted to Optimize its Use in the Areas Most Devastated by the 2017 Hurricanes

Liberty supports the Commission’s decision to award more support to carriers serving Puerto Rico than those serving the USVI. However, due to distinct differences between Puerto Rico and the USVI, the Commission should consider adjusting the allocation of support between the two areas.¹⁸ Although the 80-20 ratio described in the NPRM provides more support to Puerto Rico in the aggregate, when viewed on a per capita or per square mile basis, or even in

¹⁵ Order at para. 5.

¹⁶ NPRM at para. 97

¹⁷ *Id.* at para. 34.

¹⁸ *Id.* at para. 37.

light of the relative destruction on the islands, the USVI is receiving far more support than Puerto Rico.

For example, based on the Commission's proposed allocation of funds through Stage 1 and Stage 2 of the Uniendo a Puerto Rico Fund and the Connect USVI Fund, carriers in the much more populous Puerto Rico will receive approximately \$263 per capita, while carriers in the USVI will receive approximately \$1,907 per capita.¹⁹ Additionally, given that the total land area of Puerto Rico is approximately 3,500 square miles, while the land areas in the USVI are approximately 134 square miles, the proposed funding allocation equates to \$214,000 per square mile in Puerto Rico versus \$1.5 million per square mile in the USVI—seven times the amount allocated to Puerto Rico. Liberty also respectfully submits that the Commission should consider the fact that the relative size of the islands creates different obstacles in network deployment. For example, because Puerto Rico is much larger and the population is widely dispersed, several different routes of plant across the geographically diverse Island are required to connect various towns and cities. This requires a much more complicated and extensive network. When

¹⁹ Order at para. 3. Prior to the hurricanes, approximately 3.35 million people lived in Puerto Rico. However, approximately 500,000 people fled the island after the hurricanes, which would reduce its current population level to approximately 2.85 million people. *See CIA World Factbook: Puerto Rico*, <https://www.cia.gov/library/publications/the-world-factbook/geos/rq.html> (last visited on June 25, 2018); *Exodus from Puerto Rico grows as island struggles to rebound from Hurricane Maria*, Arelis R. Hernandez, Washington Post, https://washingtonpost.com/national/exodus-from-puerto-rico-grows-as-island-struggles-to-rebound-from-hurricane-maria/2018/03/06/b2fcb996-16c3-11e8-92c9-376b4fe57ff7_story.html?noredirect=on (Mar. 6, 2018). In order to calculate the \$263 per capita figure above, the total amount of proposed support (\$750M) was divided by the estimated population of Puerto Rico after the hurricanes. To estimate the difference in proposed support for the USVI conservatively, the above amount was calculated using the *pre*-hurricane population in the USVI, estimated to be approximately 107,000 in July 2017. *See CIA World Factbook: Virgin Islands*, https://cia.gov/library/publications/the-world-factbook/geos/print_vq.html (last visited on June 25, 2018). Based on a population of 107,000, and proposed support of \$204M, the proposed funding would provide approximately \$1,907 in support per USVI resident.

measuring the networks that service Puerto Rico in linear feet, the networks serving Puerto Rico would be several multiples larger than those serving the USVI.

While there are some densely populated areas, mainly around the few metropolitan centers in Puerto Rico, the majority of the Puerto Rican population is evenly distributed throughout the Island. In particular, it is especially difficult to deploy and maintain facilities that reach the population found in the mountainous central region of Puerto Rico. This is in contrast to the USVI, where the vast majority of the population is centered around densely populated urban centers making deployment and restoration of facilities logistically simpler and significantly less expensive.

Furthermore, following the devastation of the 2017 hurricanes, critical infrastructure in the USVI was restored significantly earlier than in Puerto Rico.²⁰ Given these vast differences in population, topography, land mass and the lingering effects of the hurricanes, Liberty urges the Commission to reconsider its allocation of the overall amount of support between Puerto Rico and the USVI to better address the challenges associated with rebuilding, improving, and expanding service throughout Puerto Rico.

Although Liberty recognizes there is also need for support in the USVI, Liberty submits that an allocation of 90% of the support to Puerto Rico, and 10% of the support to the USVI would better reflect the differences in the territories and lead to the more efficient use of finite universal service support.

²⁰ See *Power is Restored to Most of U.S. Virgin Islands After Hurricanes, Official Say*, Patricia Mazzei, NY Times, <https://www.nytimes.com/2018/01/09/us/virgin-islands-power.html> (Jan. 9, 2018) (stating that by January 2018 electricity had been restored to almost the entirety of the USVI, while electricity had only been restored to approximately 50% of Puerto Rico).

C. The Commission's Allocation of Stage 2 Support Between Fixed and Mobile Operators is Appropriate

Liberty submits that the Commission's proposed allocation of funding between fixed services and mobile services is justified by differences in networks and cost structures. Fixed infrastructure is costlier to deploy and maintain than mobile infrastructure, and mobile infrastructure is reliant on fixed infrastructure. As the Commission recognizes, reliable and faster backhaul is a core component in the proper functionality of mobile services. This concept was illustrated in the aftermath of the destruction caused by Hurricane Maria. Cell towers throughout Puerto Rico were able to regain power, through the use of generators, relatively quickly after the storm. However, even though the towers were "on," they provided no connectivity because the fixed backhaul networks were down. Therefore, in order to maintain both properly functioning fixed and mobile networks, it is critical that the Commission allocate additional funding for fixed networks consistent with the Commission's proposed allocation.

D. The Commission Should Only Award Stage 2 Support for the Deployment of Facilities to Unserved/Underserved Areas and for Hardening Networks

Stage 2 Funding of the Uniendo a Puerto Rico Fund should only be used for the hardening of network, and deployment of broadband facilities to unserved and underserved areas in Puerto Rico. The Commission should not make Stage 2 funding available for restoring network facilities. As discussed *supra* in Section II(A), the Commission also should award \$200 million in additional support dedicated to the hardening of networks. This approach recognizes that a significant portion of restoration work and expenses already has occurred,²¹ and will allow Stage 2 funding to be focused on the deployment of new facilities and the substantial investment

²¹ For example, by the end of the second quarter of 2018, Liberty had restored service to the vast majority of its network.

required to build network resiliency. The Commission should not utilize limited universal service funds to support carriers who chose to delay restoration efforts until they received government subsidies. Rather, providers such as Liberty that proactively funded the restoration of their networks should be encouraged by focusing Stage 2 funding on extending resilient broadband networks throughout Puerto Rico, not on the delayed restoration of fragile legacy networks.

To quantify this suggestion, Liberty proposes that 70% of Stage 2 funding be allocated for the deployment of new facilities, while 30% of such funding be set aside specifically for hardening and creating network resiliency. Such an allocation will promote the most efficient use of finite high-cost funds. By focusing support on the deployment of new facilities and the hardening of networks, Puerto Ricans will have access to critical broadband services, and such networks will be more resilient when the next hurricane strikes.

By allocating Stage 2 funding on a 70-30 ratio basis, the support will enable Liberty to:

- Expand the availability of fixed broadband service – reaching populations that are otherwise economically infeasible to serve due to, among other reasons, distance from an OTN or headend, customer density or take rate dynamics;
- Enhance the resiliency of Liberty’s core and local distribution networks by burying fiber and reinforcing the plant to minimize exposure to tropical weather events; and
- Make last-mile distribution facilities more resilient and independently powered to decrease dependency on the unreliable third-party power utility.

1. The Majority of Stage 2 Funding Should be Targeted Towards the Deployment of New Broadband Infrastructure

The majority of Stage 2 funding should be allocated to deploying broadband infrastructure to unserved and underserved areas throughout Puerto Rico. By allocating the majority of Stage 2 funding to new deployment, the Commission could focus on achieving the core goal of universal service, *i.e.*, ensuring that consumers located in rural and high-cost areas have access to critical broadband services.²²

a. The Commission Should Cease Awarding Legacy High-Cost Support in Puerto Rico and Should Award All Stage 2 Funding Allocated for New Deployment of Facilities Through a Competitive Proposal Process

Liberty strongly supports the Commission’s proposal to replace “the existing frozen high-cost support mechanisms . . . with a competitive mechanism” that would award support on a cost-effective and efficient basis.²³ In particular, Liberty supports the Commission’s proposal to award support for the deployment of broadband networks to unserved/underserved locations through a “competitive proposal process,”²⁴ similar to how support is awarded through the highly-successful Schools and Libraries and Rural Healthcare universal service programs. The Commission’s 2014 decision to award frozen high-cost support to a single provider to deploy critical broadband infrastructure throughout Puerto Rico, ultimately left much of Puerto Rico without adequate broadband service prior to the 2017 hurricanes, and ill-equipped to recover quickly from the destruction of the 2017 hurricanes.

²² 47 U.S.C. § 254(b)(3).

²³ NPRM at para. 36.

²⁴ *Id.* at 40-41.

Significantly, the Commission required the electing ILECs to commit to tailored service and deployment obligations, and stated that such obligations would be adopted at a later date.²⁵ This decision effectively allowed Puerto Rico's ILEC to receive roughly \$36 million annually *with no concrete service or deployment obligations*.²⁶ Although specific service obligations for Puerto Rico were to be adopted “no later than the time [the Commission] adopt[ed] the rules for the Phase II competitive bidding process,”²⁷ those obligations were not imposed when the Commission adopted the CAF Phase II competitive bidding rules in February 2017.²⁸ It has now been three and a half years since the Puerto Rico ILEC elected to receive frozen high-cost support, without any requirement to meet any tailored service or deployment obligations in exchange for such support.²⁹

After the 2017 hurricanes, the Commission awarded additional support to the Puerto Rican ILEC. To provide immediate assistance after the 2017 hurricanes, the Commission

²⁵ *December 2014 Connect America Fund Order*, 29 FCC Rcd at 15661-63, paras. 45-49.

²⁶ Order at para. 11.

²⁷ *December 2014 Connect America Fund Order*, 29 FCC Rcd at 15662, para. 48.

²⁸ *See Connect America Fund et al.*, WC Docket No. 10-90 et al., Report and Order, 32 FCC Rcd 1624 (2017).

²⁹ *See* Letter from Thomas J. Navin, Counsel, Puerto Rico Telephone Company, Inc., to Ms. Julie Veach, Chief, Wireline Competition Bureau, Docket No. 10-90 (filed Dec. 22, 2014). Unfortunately, even with the assistance of significant universal service support, the people of Puerto Rico have been left without reliable access to broadband. Prior to the hurricanes in 2017, PRTC sought relief from the Commission for its failure to deploy facilities consistent with the obligations for acceptance of CAF Phase I incremental support. *See* Petition for Declaratory Ruling of Puerto Rico Telephone Company, Inc., WC Docket No. 10-90 (filed Feb. 22, 2017). The Commission criticized PRTC for its failure to meet the required CAF Phase I deployment obligations, and denied its petition, stating that “PRTC must have recognized [the] potential challenges when deciding to accept Phase I Round Two support and the associated obligations...” However, just a year later “in light of the unique hardships created by the 2017 hurricanes” the Commission awarded PRTC *more support*. *See Connect America Fund*, Order, 32 FCC Rcd 7981, 7985, para. 15 (2017) (“2017 Hurricane Funding Order”).

provided approximately \$65.8 million in emergency high-cost support to carriers in Puerto Rico and the USVI. At the time, the Commission indicated that this support would be offset against future support.³⁰ The decision to offset, however, was then reversed in the Order.³¹ Liberty recognizes that this decision was made to assist the restoration efforts in Puerto Rico, but it effectively granted the Puerto Rican ILEC an additional infusion of support without any specific service or deployment obligations.

Despite competing against the subsidized ILEC, which has received high-cost funding for more than 20 years, Liberty has provided better broadband service to Puerto Rican consumers. In fact, Liberty's network is capable of providing broadband with download speeds at more than 200 Mbps with low latency to all locations where it is deployed, with significant portions of the network capable of providing speeds up to 400 Mbps, which vastly exceeds the speeds offered by its ILEC competitor that largely relies on copper plant. With the infusion of additional support through the Uniendo a Puerto Rico Fund, Liberty could serve more consumers across Puerto Rico with its superior network and service.

Stage 2 of the Uniendo a Puerto Rico Fund is a unique opportunity to correct course and redirect high-cost support to Puerto Rico in a much more cost-effective and efficient manner. However, Liberty recognizes that consumers in territories served by an incumbent provider that does not win support in the competitive proposal process in that particular territory, must continue to have the ability to receive service until the new provider has deployed facilities. Therefore, if an incumbent provider does not win support for any geographic area that it currently serves, support should be phased down over a two-year timeline to ensure that

³⁰ See *2017 Hurricane Funding Order*, 32 FCC Rcd at 7985, para. 14.

³¹ Order at para. 10.

customers in the area are able to maintain their service until the winning bidder has deployed its own facilities in that territory.³² In order to ensure that sufficient funds are available for the goals described in the Uniendo a Puerto Rico Fund, in Year 1 the incumbent provider should receive 66% of the funds it was previously receiving, in Year 2 it should receive 33% of the funds it was previously receiving, and in Year 3 funding would cease. This proposal for a phased down approach is consistent with the Commission's policy to avoid flash cuts of support, and represents a fair path for moving forward that both protects consumers and ensure the efficient use of finite universal service resources.

Through the competitive proposal process, the Commission will be able to quickly and efficiently award support on the basis of several factors to each geographic area in Puerto Rico. Liberty urges the Commission to adopt its proposal to move away from "the existing frozen high-cost support mechanisms and replace them with a competitive mechanism" that would award support on a cost-effective and efficient basis.³³

b. The Commission Should Evaluate Proposals on the Basis of Both Quality and Efficiency

In response to the Commission's requests, Liberty provides its initial comments on the criteria to be used by the Commission to evaluate competitive proposals for support in Puerto Rico. At the outset, Liberty agrees that the key criterion should be price per location.³⁴ However, price should not be the only metric by which the Commission evaluates competitive bids. In particular, given the destruction to the communications networks in Puerto Rico, it is crucial that the networks are restored expeditiously and that such networks are reliable.

³² NPRM at para. 41.

³³ *Id.* at para. 36.

³⁴ *Id.* at para. 54.

Therefore, Liberty requests that the Commission evaluate such bids based on the proposed timing of deployment to “served” locations, network performance and the reliability of such networks. To evaluate these metrics, Liberty proposes that the Commission evaluate competitive bids for support based upon the following factors:

Price Per-Location Served

The primary criterion to evaluate competitive proposals should be price per-location served.³⁵ By emphasizing this factor, the Commission can ensure that support is utilized efficiently better achieving its goal of making available to all locations “...a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges.”³⁶ Heavily weighting this factor is consistent with its primary focus on pricing in other high-cost programs and other universal service programs more broadly.³⁷

Speed of Network Deployment

The speed of network deployment also should be a critical factor in the Commission’s evaluation of competitive proposals.³⁸ Given the devastation to Puerto Rico’s existing communications networks caused by the 2017 hurricanes, it is critical that broadband infrastructure is deployed in a speedy and efficient manner. Otherwise, the citizens of Puerto Rico risk the possibility of falling further behind the rest of the United States, exacerbating their competitive disadvantage.³⁹ To that end, Liberty urges the Commission to consider an

³⁵ NPRM at para. 55.

³⁶ 47 U.S.C. § 151.

³⁷ 47 C.F.R. § 54.511(b) (stating that E-Rate providers may only provide service to schools and libraries at the lowest corresponding price for such services).

³⁸ NPRM at para. 55.

³⁹ See generally *The Economic Impact of Rural Broadband*, Hanns Kuttner, April 2016 Briefing Paper, Hudson Institute (2016), available at

accelerated deployment timeline with an associated accelerated timeline for the disbursement of support. By adopting such an accelerated timeline, the Commission can ensure that providers utilize the support in an efficient manner that will benefit the citizens of Puerto Rico. If the Commission maintains its proposed six-year deployment timeline, some locations in Puerto Rico could be left without access to broadband for six years. By the time a winning provider reaches those locations, technology likely will have evolved in a manner that could make the service to those locations suboptimal. Therefore, it is crucial that the Commission utilize speed of network deployment as a critical factor for evaluating competitive proposals.

Network Performance

The Commission should heavily favor proposals that seek to provide robust levels of broadband service.⁴⁰ Although the Commission's current universal service broadband standard is 10/1 Mbps with roundtrip latency below 100 ms, such speeds will be unable to handle the demands of modern users. Therefore, the Commission should weigh network performance heavily in its evaluation of competitive proposals as it decided to do for the CAF Phase II Auction.⁴¹ The Commission should establish tiers of performance metrics with associated weights that are adjusted from the CAF II service tiers to account for the unique circumstances in Puerto Rico. Liberty proposes the following tiers of performance with associated weights:

<https://s3.amazonaws.com/media.hudson.org/files/publications/20160419KuttnerTheEconomicImpactofRuralBroadband.pdf> (last visited July 26, 2018).

⁴⁰ NPRM at para. 55.

⁴¹ *Connect America Fund et al.*, Report and Order and Further Notice of Proposed Rulemaking, WC Docket No. 10-90 *et al.*, 31 FCC Rcd 5949, 5956-63, paras. 14-37 (FCC 2016) ("Phase II Auction Order"). The Commission should weigh competing bids in the same manner as it did in the *Phase II Auction Order*. For example, bids should be scored relative to the reserve price for the area subject to the bid, with lower bids selected first. *See id.*

Performance Tier	Speed	Usage Allowance	Weight
Baseline	$\geq 25/3$ Mbps	≥ 150 GB or U.S. median, whichever is higher	50
Above Baseline	$\geq 100/10$ Mbps	≥ 250 GB	0

Latency	Requirement	Weight
Low Latency	≤ 100 ms	0
High Latency	≤ 750 ms & MOS of ≥ 4	25

By largely mirroring the structure of the CAF II program, the Commission is well equipped to evaluate varying service efficiently. Providers that propose the most robust levels of service should be preferred providers because such service will withstand the advances in technology over time, requiring less additional capital to update networks.

Network Resiliency

The Commission should consider network resiliency in its evaluation of the competitive proposals, in order to protect the Commission's investment in rebuilding Puerto Rico's communications networks and to minimize the impact of future hurricanes on the provision of critical telecommunications services to the public.⁴²

However, this factor should be given the least weight of the four bid evaluation criteria that Liberty proposes, because some of the Stage 2 funding allocated to new builds will inherently support the hardening of networks.

⁴² NPRM at para. 55.

2. The Commission Must Allocate Funding Specifically for the Hardening of Networks

It is critical that specific funding is set aside for “hardening” existing telecommunications infrastructure. Such work will require burying transport/backbone fiber routes to hub locations (and undersea landing locations) and re-imagining traditional network design to make it less dependent on the electrical power grid. The work that is required to harden the networks will be quite costly. A combination of the \$200 million in additional funding discussed *supra*, and 30% of the Stage 2 funding is necessary to fund a substantial portion of such work.

In particular, funds set aside for hardening should be used to reduce reliance on the power grid in Puerto Rico, which has been very unreliable, even in the absence of the destruction caused by hurricanes. While Liberty’s central offices, headends and OTNs currently have redundant power systems (multiple uninterruptible power supplies, battery back-up and generators), the fragility lies in the last mile. The most important elements of the company’s distribution network are thousands of nodes and amplifiers which are energized by a roughly equivalent number of power supplies. Although Liberty currently has battery backup systems for all of its power supplies, these systems are neither designed for, nor capable of, enduring the pervasive and extended blackouts affecting Puerto Rico before and after Hurricanes Irma and Maria. Designing and deploying consolidated power systems in the high-density San Juan metro area could provide higher service availability by concentrating the electricity feed of our network distribution elements in new “central office like” structures, which would have redundant and back-up power systems similar to those for our OTNs and headends. While the traditional design of Liberty’s network does not require this consolidated approach, the pervasive instability of the electricity service in Puerto Rico demands an extensive capital investment for such infrastructure overhaul.

This is in addition to the significant capital investment associated with hardening or burying of plant. For instance, the cost associated with burying plant is \$16-\$20 per foot alone. This does not include the costs associated with the actual fiber, conduits, pull boxes, or construction taxes.

It is noteworthy that the majority of the communications infrastructure within Puerto Rico is located in and around the greater San Juan metropolitan area. This is principally due to the fact that all undersea landing stations are located within a 6 mile stretch in San Juan and are critical to provisioning service to all locations within the Island. Consequently, if any of these landing stations suffer catastrophic failure, it is likely that the rest of the Island will be impacted. Therefore, funds for hardening could be used to reduce reliance on the telecommunications infrastructure that is present in San Juan. Establishment of an undersea cable landing station in a southern location on the Island could create redundancy in the network. Should landing stations in San Juan become inoperable, the southern landing station would be capable of maintaining network connectivity throughout the Island.

a. The Commission Should Award Support Earmarked for Hardening Through a Negotiation Process

As was discussed *supra*, Liberty proposes that 70% of Stage 2 funding be allocated for the deployment of new facilities, and 30% be allocated to hardening networks and creating network resiliency.⁴³ The 70% of the Stage 2 funding allocated for deployment of new facilities should be awarded through the competitive proposal process, as is outlined above, but the 30% of Stage 2 funding that is allocated towards hardening, and any additional support the

⁴³ As mentioned *supra*, some portion of the funding specifically allocated for new facilities deployment will, as a practical matter, fund the hardening of the associated network.

Commission awards allocated towards hardening, should be disbursed through the type of negotiation process described by the Commission describes in the NPRM.⁴⁴

In particular, the \$200 million in additional funding proposed by PRTC⁴⁵ is critical to expeditiously hardening networks on the Island before another catastrophic storm strikes. However, the Commission should reject PRTC's proposal to award that funding on the basis of "customer service disruption credits"⁴⁶ because such a mechanism would unfairly favor PRTC, which has a larger (and unlike Liberty to date, subsidized) network. Rather, the Commission should award support on a negotiated basis.

Every carrier in Puerto Rico has deployed its network in a different manner, and, therefore, each network is designed differently and is at a different stage of hardening. Consequently, a negotiated approach to the allocation of funds earmarked for hardening will best position the Commission to allocate such funds in the most efficient manner. For example, Liberty has deployed the entirety of its network with private funds.⁴⁷ Accordingly, Liberty has had to make critical decisions in order to reach the most subscribers as possible, such as deploying the majority of its facilities above ground, including the network backbone, because it is far more cost effective than deploying underground. While Liberty has deployed its network

⁴⁴ NPRM at paras. 75-77.

⁴⁵ *Id.* at para. 97.

⁴⁶ *Id.*

⁴⁷ This comes in stark contrast to Liberty's principal competitors in Puerto Rico, PRTC and AT&T. As described herein, as the Puerto Rican ILEC, PRTC has received multiple decades worth of high-cost funding to help fund its network. Likewise, AT&T has also received significant high-cost funding in Puerto Rico, and has received additional support from the federal government in order to deploy the FirstNet network. *AT&T gets \$6.5 billion to build US-wide public safety network*, Jon Brodtkin, ArsTechnica, <https://arstechnica.com/information-technology/2017/03/att-gets-6-5-billion-to-build-us-wide-public-safety-network/> (Mar. 30, 2017).

backbone in some portions of the Island, it has not benefitted from the subsidies received by other providers who have leveraged that funding to bury portions of their network. Therefore, Liberty proposes a negotiation process to determine the funding that each fixed provider should receive dedicated specifically to network hardening. Through this process, the Commission would be able to more intimately evaluate the unique aspects of each provider's network, consider specific factors and metrics of each network, and allocate support accordingly.

The Commission should consider various network parameters to evaluate how to disburse support allocated for hardening. In particular, the Commission should consider the total percentage of buried fiber in a provider's network, the number of pole attachments reduced resulting from hardening, total number of home protected resulting from hardening, and the ability to lessen a provider's dependence on the power grid. By reducing the amount of aerial pole attachments and burying more fiber, networks are inherently less susceptible to severe weather in most locations.⁴⁸ Consequently, fewer customers will be impacted during catastrophic events. Therefore, if the Commission focuses the award of support allocated to hardening on these factors, the Commission can ensure that such funding will have the greatest impact for consumers.

b. Stage 2 Support Earmarked for Hardening Should be Awarded Over a Five-Year Term

While Liberty generally supports the Commission's proposal to award support over a ten-year term,⁴⁹ The Commission should award all funding that is earmarked for hardening over an accelerated term of five years. Given the fact that recent changes in global climate have

⁴⁸ In some locations, such as marsh or wetlands, aerial deployment of facilities is advantageous to plant deployed underground due to the susceptibility of the land to mudslides and flooding. Liberty will strategically maintain aerial plant in such locations.

⁴⁹ NPRM at para. 35.

increased the prevalence and strength of hurricanes in the Caribbean,⁵⁰ it is very likely that Puerto Rico will be stricken with hurricanes. Therefore, it is critical that the networks on the Island are hardened as quickly as possible, so as to withstand future natural disasters. Additionally, because it is highly likely that the power grid and utility pole infrastructure will remain fragile for the foreseeable future,⁵¹ it is critical that the broadband networks deployed on the Island become resilient in the face of a hurricane. By accelerating the disbursement of all support earmarked for hardening, the Commission could ensure that its investment in Puerto Rico's broadband networks through the Uniendo a Puerto Rico Fund is better protected should a devastating hurricane strike the Island again.

III. THE COMMISSION SHOULD AWARD SUPPORT TO EXISTING PROVIDERS IN A MANNER THAT PROMOTES THE EFFICIENT USE OF FINITE UNIVERSAL SERVICE FUNDS

A. Stage 2 Support Should be Awarded on a Census Block Group Level to Those Specific Areas of Puerto Rico Where Funding is Most Critical

1. The Minimum Geographic Area for Awarding Support Should be on the Census Block Group Level

Liberty urges the Commission to award support at the census block group level.⁵² By awarding support at the census block group level, the Commission will effectively mirror how it has awarded support through the CAF II program.⁵³ Liberty recognizes that the Commission has

⁵⁰ *Global warming to make powerful hurricanes more likely*, David Abel, Boston Globe, <https://bostonglobe.com/metro/2017/09/05/global-warming-make-powerful-hurricanes-more-likely-scientists-say/Q3IUW6iKuGEKvpTOD22sGL/story.html> (Sept. 6, 2017).

⁵¹ *Why Can't We Fix Puerto Rico's Power Grid?*, Adam Rogers, Wired, <https://wired.com/story/why-cant-we-fix-puerto-ricos-power-grid/> (Apr. 18, 2018).

⁵² NPRM at para. 47.

⁵³ *Comment Sought on Competitive Bidding Procedures and Certain Program Requirements for the Connect America Fund Phase II Auction (Auction 903)*, Public Notice, WC Docket No. 10-90, 32 FCC Rcd. 6239, 6241, para. 12 (FCC 2017) (“CAF II Auction Comment PN”).

proposed that recipients of support for particular geographic areas will be required to serve *every* location within that geographic area,⁵⁴ and Liberty supports the Commission’s proposal to require carriers to serve every location in each geographic area. By awarding support at the census block group level, the Commission will encourage more efficient proposals because the Commission and providers will be able to more accurately target funding based on the specific needs of more granular geographic locales, unlikely, for example at the municipio level, in which there could exist a much wider variety of on-the-ground circumstances. Additionally, at the census block group level, carriers will undoubtedly put forth proposals “that align[] with their intended network expansion or construction”⁵⁵ and make a much more efficient use of the Commission’s finite universal service resources. At the census block group level, the Commission is likely to receive more efficient proposals that deploy more robust broadband with less total support than if the Commission chose to utilize a larger minimum geographic area. Package bidding for contiguous census block groups also would be appropriate.⁵⁶ By permitting package bidding of contiguous census block groups, the Commission will permit providers to achieve economies of scale that will decrease the funds necessary to deploy network to service such areas. Therefore, permitting package bidding is a “win-win” that benefits both bidders and the Commission in achieving efficient use of limited high-cost funds.

Finally, the Commission will have administered the CAF II auction prior to awarding support through the Uniendo a Puerto Rico Fund and will be familiar with awarding support at the census block group level.

⁵⁴ NPRM at paras. 47-48.

⁵⁵ *CAF II Auction Comment PN* at para. 13.

⁵⁶ NPRM at para. 56.

2. Only Certain Territories in Puerto Rico Should be Eligible for Funding

The entirety of Puerto Rico should be eligible for Stage 2 support for both hardening and deployment of new facilities. However, for support earmarked for deployment of new facilities, the Commission should exclude from eligibility any area that is currently served by an unsubsidized terrestrial providers of fixed voice and broadband, consistent with Commission precedent in the CAF program.⁵⁷

Because the Commission has a limited amount of funding for Puerto Rico, it should target and utilize such support in the most efficient manner. The allocation of 70% of Stage 2 funding for the deployment of new facilities and 30% of the support for hardening and creating network resiliency, as is discussed *supra*, will contribute to such efficient use. Further, support should be available only for hardening in certain municipios. In particular, there are a handful of municipios that are densely populated, making these areas more economical to serve. Consequently, these municipios already have significant infrastructure deployment. Permitting disbursement of funds in these municipios for the purpose of deploying broadband to new locations would be an inefficient use of universal service funds. In fact, it is likely that the cost of serving locations in these areas would fall below the high-cost funding benchmark. It is important to note, however, that certain census blocks in specific municipios should be eligible for funding earmarked for network hardening disbursed through the negotiation process discussed *supra*. Without resilient facilities these networks will be susceptible to the same damages experienced during the 2017 hurricanes.

⁵⁷ *Phase II Auction Order*, 31 FCC Rcd at 5973-74, paras. 72-73.

Liberty respectfully provides the following list of municipios where all census blocks falling within each respective municipio should only be eligible for funding earmarked exclusively for hardening. **Municipios: Aguadilla, Bayamón, Caguas, Carolina, Cataño, Dorado, Guaynabo, Gurabo, Luquillo, San Juan, Toa Alta and Toa Baja.** Liberty respectfully submits that these eligibility recommendations would achieve the most efficient allocation of universal service support throughout Puerto Rico.

B. The Commission Must Adjust the Funding Benchmark to Account for the Unique Circumstances in Puerto Rico

In order to establish the reserve prices for each eligible geographic area, the Commission proposes to utilize high-cost and extremely high-cost funding thresholds, much like it did under the CAF II program.⁵⁸ In the *CAM Inputs Order* the Commission established a high-cost funding benchmark of \$52.50,⁵⁹ which represented the point “where the cost of service is likely to be higher than can be supported through reasonable end-user rates.”⁶⁰ While \$52.50 may represent the points where the cost of service is higher than can be supported through end-user rates in the 48 contiguous states, that threshold is grossly inadequate for use in Puerto Rico, and must be adjusted so that support can be efficiently disbursed through the Uniendo a Puerto Rico Fund.⁶¹

Liberty urges the Commission to decrease substantially the funding benchmark far beyond the 25% that the Commission includes in the NPRM,⁶² to account for the distinct variables that exist in Puerto Rico that are not present in the contiguous 48 states. This request

⁵⁸ NPRM at paras. 52-53.

⁵⁹ *CAM Inputs Order*, 29 FCC Rcd at 4033, para. 164.

⁶⁰ *Id.* at 165.

⁶¹ NPRM at para. 53.

⁶² *Id.*

is largely due to the fact that the point “where the cost of service is likely to be higher than can be supported through reasonable end-user rates”⁶³ is much lower in Puerto Rico than it is in the 48 contiguous states. The Commission already has acknowledged this when it recognized that carriers in Puerto Rico “...face unique circumstances in the areas they serve and experience different challenges in deploying broadband service” throughout Puerto Rico.⁶⁴ Consistent with this recognition, significant changes should be made to establish an appropriate high-cost funding threshold to be used in Puerto Rico.

In the *CAM Inputs Order*, the Commission adopted a formula to calculate the appropriate high-cost funding benchmark, which consisted of multiplying the average revenue per user (“ARPU”) that a carrier could expect to earn with the subscription rate (or expected rate of adoption of locations served) for services.⁶⁵ In order to implement that approach for Puerto Rico, the ARPU and take rate inputs must be significantly adjusted to reflect the circumstances in Puerto Rico. In particular, the Commission must account for the broadband adoption rate and overall level of poverty in Puerto Rico. For example, prior to the 2017 hurricanes, where broadband was available, it was estimated that roughly only 46% of adults in Puerto Rico subscribed to home broadband service.⁶⁶ A 46% subscription rate is far below the 70% subscription rate that the Commission chose to utilize in developing the high-cost funding benchmark for the CAF II program.⁶⁷ In practice, Liberty has experienced subscription rates

⁶³ *CAM Inputs Order*, 29 FCC Rcd at 4033, para.165.

⁶⁴ *December 2014 Connect America Fund Order*, 29 FCC Rcd 15662, para. 46.

⁶⁵ *CAM Inputs Order*, 29 FCC Rcd at 4035, para.170.

⁶⁶ *Broadband Adoption and Usage in Puerto Rico*, Connect Puerto Rico at 1, available at http://connectpr.org/sites/default/files/connected-nation/pr_data_trends_111414_v2.pdf (last visited July 20, 2018).

⁶⁷ *CAM Inputs Order*, 29 FCC Rcd at 4039, para.177.

significantly lower than even the 46% rate, particularly in more rural areas of Puerto Rico. Furthermore, broadband adoption rates in Puerto Rico, like in the 48 contiguous states,⁶⁸ are correlated closely with household income.⁶⁹ Unfortunately, the median household income in Puerto Rico is \$18,626,⁷⁰ which is far less than the median household income in the 48 contiguous states where broadband adoption significantly drops when household income falls below \$30,000 and consumers are faced with difficult budgetary choices.⁷¹ Additionally, in Liberty's experience, when consumers of such limited means do subscribe to broadband they are extremely unlikely to purchase anything but the most basic service plan, limiting the revenue to providers. Therefore, the Commission must significantly decrease its expected rate of subscription and ARPU in order to account for the unique circumstances evident in Puerto Rico. Without a drastic decrease in the high-cost funding benchmark, deploying broadband facilities throughout Puerto Rico will remain economically infeasible.

Liberty recognizes that, if the Commission decreases the high-cost funding benchmark, it will necessarily result in a decrease of the extremely high-cost threshold in order to most efficiently use the available support throughout Puerto Rico. While a decrease of the extremely high-cost threshold is necessary in order to make economic sense to deploy to the majority of locations in Puerto Rico, Liberty does not intend to exclude those locations that are the most difficult to serve by decreasing the extremely high-cost threshold. Therefore, Liberty proposes

⁶⁸ *Digital divide persists even as lower-income Americans make gains in tech adoption*, Monica Anderson, Pew Research Center, <http://pewresearch.org/fact-tank/2017/03/22/digital-divide-persists-even-as-lower-income-americans-make-gains-in-tech-adoption/> (Mar. 22, 2017) ("Pew Digital Divide Research").

⁶⁹ *Id.* at 6.

⁷⁰ *Key Findings about Puerto Rico*, Jens Manuel Krogstad *et al.*, Pew Research Center, <http://pewresearch.org/fact-tank/2017/03/29/key-findings-about-puerto-rico/> (Mar. 29, 2017).

⁷¹ See Pew Digital Divide Research.

that certain municipios on the Central Mountain Range, and Culebra and Vieques utilize an extremely high-cost threshold that is greater than the rest of Puerto Rico.⁷² While utilizing different extremely high-cost thresholds in the 48 contiguous states would be controversial, Puerto Rico is unique,⁷³ and treating some municipios differently from others is justified. Furthermore, it should not be administratively burdensome for the Commission to treat certain municipios differently because the competitive proposal process is much more flexible than the reverse auction in place for the CAF II fund. By adopting such proposal, the Commission can ensure the efficient use of the finite universal service support available for deployment of broadband in Puerto Rico, while also ensuring that broadband is extended to the most locations possible.

Regardless of the funding thresholds that the Commission ultimately adopts, Liberty urges the Commission to require winning providers for each territory to serve *every* location within a territory that falls within the funding thresholds.⁷⁴ Adopting such a requirement would be consistent with Commission action in the CAF II program, and would ensure that carriers could not “cherry pick” locations within a specific funded territory that are the easiest to service. In short, such policy would advance the Commission’s universal service goals.

C. Stage 2 Support Should be Limited to Existing Facilities-Based Providers in Puerto Rico

Liberty supports the Commission’s proposal to limit participation to providers with wireline networks that provision broadband service in Puerto Rico based on June 2017 FCC

⁷² NPRM at para. 52.

⁷³ *December 2014 Connect America Fund Order*, 29 FCC Rcd 15662, para. 46.

⁷⁴ NPRM at para. 49.

Form 477 data.⁷⁵ Given the unique operating environment that Puerto Rico presents, any new entrants to the market are likely to face significant challenges that are not commonplace in the contiguous 48 states. Therefore, there is a far greater likelihood that such providers would fail to meet their specific deployment and performance obligations if they were to win support. Existing facilities-based providers in Puerto Rico are best equipped deploy facilities to unserved locations. Liberty favors healthy competition, but the addition of new subsidized entrants to the Puerto Rican market could distort that market for providers that have privately funded the deployment of plant and operations. Therefore, the Commission should limit Stage 2 funding to broadband providers currently on the Island.

IV. LIBERTY SUPPORTS THE COMMISSION'S PROPOSALS ON ACCOUNTABILITY AND OVERSIGHT

Liberty supports the Commission's proposals to monitor the accountability of those carriers that are awarded support through the Uniendo a Puerto Rico Fund.⁷⁶ In contrast to the lack of concrete service and deployment obligations associated with the disbursement of universal service funds in Puerto Rico for many years, the Commission should enforce the proposed accountability measures in order to ensure the citizens of Puerto Rico are not left behind in the modern information age. The Commission should adopt the following accountability mechanisms:

- Support recipients must satisfy all reporting and certification obligations of providers receiving CAF Phase II auction support, including those described in sections 54.313 and 54.316 of the Commission's rules;⁷⁷

⁷⁵ *Id.* at para. 42.

⁷⁶ *Id.* at paras. 64-70.

⁷⁷ 47 CFR §§ 54.313(a), (e)(2), 54.316(a).

- On an annual basis, support recipients must report the geocoded locations of each location served over the previous year;⁷⁸
- Support recipients must be subject to the same compliance standards as are other carriers awarded support through the CAF program that have defined deployment obligations;⁷⁹ and
- All support recipients must be subject to ongoing oversight by the Commission and USAC to ensure program integrity and to prevent waste, fraud, and abuse.

By adopting the above stated accountability requirements, the Commission can ensure that winning bidders utilize support “only for the provision, maintenance, and upgrading of facilities and service for which the support is intended” as required by section 254(e) of the Act.⁸⁰

CONCLUSION

The Commission proposes to take steps necessary to address the devastation and destruction caused by the 2017 hurricanes. Not only will the Commission’s efforts help restore critical broadband connectivity throughout urban and rural Puerto Rico and the USVI, but they also will fund the deployment of storm-hardened, resilient networks. However, given the finite amount of funding that has been set aside for the restoration, hardening, and deployment of networks in Puerto Rico, the Commission should ensure that support is awarded in a competitive

⁷⁸ *Connect America Fund et al.*, Report and Order et al., 31 FCC Rcd 3087, 3167, para. 217 (FCC 2016) (“*2016 Rate-of-Return Order*”).

⁷⁹ 47 CFR § 54.320(d); *December 2014 Connect America Order*, 29 FCC Rcd at 15694-700, paras. 142-54

⁸⁰ 47 U.S.C. § 254(e); 47 C.F.R. § 54.7 (a) (“A carrier that receives federal universal service support shall use that support only for the provision, maintenance, and upgrading of facilities and services for which the support is intended.”).

manner and utilized both effectively and efficiently. For too long the universal service support disbursed to carriers in Puerto Rico has resulted in inefficient or ineffective broadband network deployment. Liberty respectfully submits that the proposals specified herein will result in the fair and efficient disbursement of support tied to aggressive service and deployment obligations. The Uniendo a Puerto Rico Fund provides an opportunity for the Commission to ensure that Puerto Rico is equipped with the infrastructure necessary to thrive in the modern world. Liberty stands ready to partner with the Commission, and is primed not only to finish restoring services and to strengthen networks, but also to deploy robust broadband facilities throughout Puerto Rico.

Respectfully Submitted,



Alexandra Verdiales Costa
Counsel
Liberty Cablevision of Puerto Rico LLC
279 Ponce de Leon Avenue
San Juan, PR 00918

Danielle Frappier
Christopher A. Cook
1919 Pennsylvania Ave. NW Suite 800
Washington DC, 20006-3402

Counsel to Liberty Cablevision of Puerto Rico LLC

July 26, 2018